cisely that green color. M. Prosper Henry points out that computation calls for a duration of about one second for the green ray if this is the correct explanation of the same.

Later Julius endeavored to explain the green ray as a phenomenon of anomalous dispersion. He also computed the duration which the green flamelet (as the phenomenon is also sometimes called) might have according to the foregoing explanation and found, in contrast to Henry, the value about one-tenth second. Therefore, ordinary optical refraction would not be adequate to explain the phenomenon and he had resort to anomalous refraction. By reason of this anomalous feature the wave lengths lying close to those of the absorption bands of a gas suffer an abnormally large refraction in that gas. According to Julius, oxygen and nitrogen absorb the green-blue wave lengths, so that anomalous refraction causes the bright-green rays to be the last ones reaching the eye from the uppermost edge of the sinking sun.

It is still a question whether the certainly slight absorption of pure atmospheric air is adequate to explain the green ray.

Analogy with green and blue suns, suggests that it may be simpler to explain the phenomenon by the selective absorption of water vapor. The green ray is most frequently observed at sea level over the sea; and the lowest atmospheric strata, particularly those over the sea, contain by far the greatest amount of water vapor. One may therefore assume that the strip of the setting sun's disk lying closest to the horizon emits rays which could be colored green by reason of the absorption of the water vapor; particularly true since the observed cases are usually during very clear atmospheric conditions when there is but very slight extinction or absorption of the blue rays. While a large proportion of the sun's disk is visible the eye is so blinded that it can not distinguish the shade of the lowest segment, therefore the green appears only in the last seconds when the eye is no longer affected by other light.

It is apparent that we have not yet found the final explanation of the green ray.

## NOTES.

Dr. William Napier Shaw, director of the Meteorological Office, London, and known to most of us as the author of Forecasting Weather, was knighted by the King of England on June 3, 1915.

We regret to announce that Aksel S. Steen, director of the Norwegian Meteorological Institute, died on May 10, 1915. He had been director of the institute since September 1, 1913, when he succeeded Prof. Henryk Mohn.